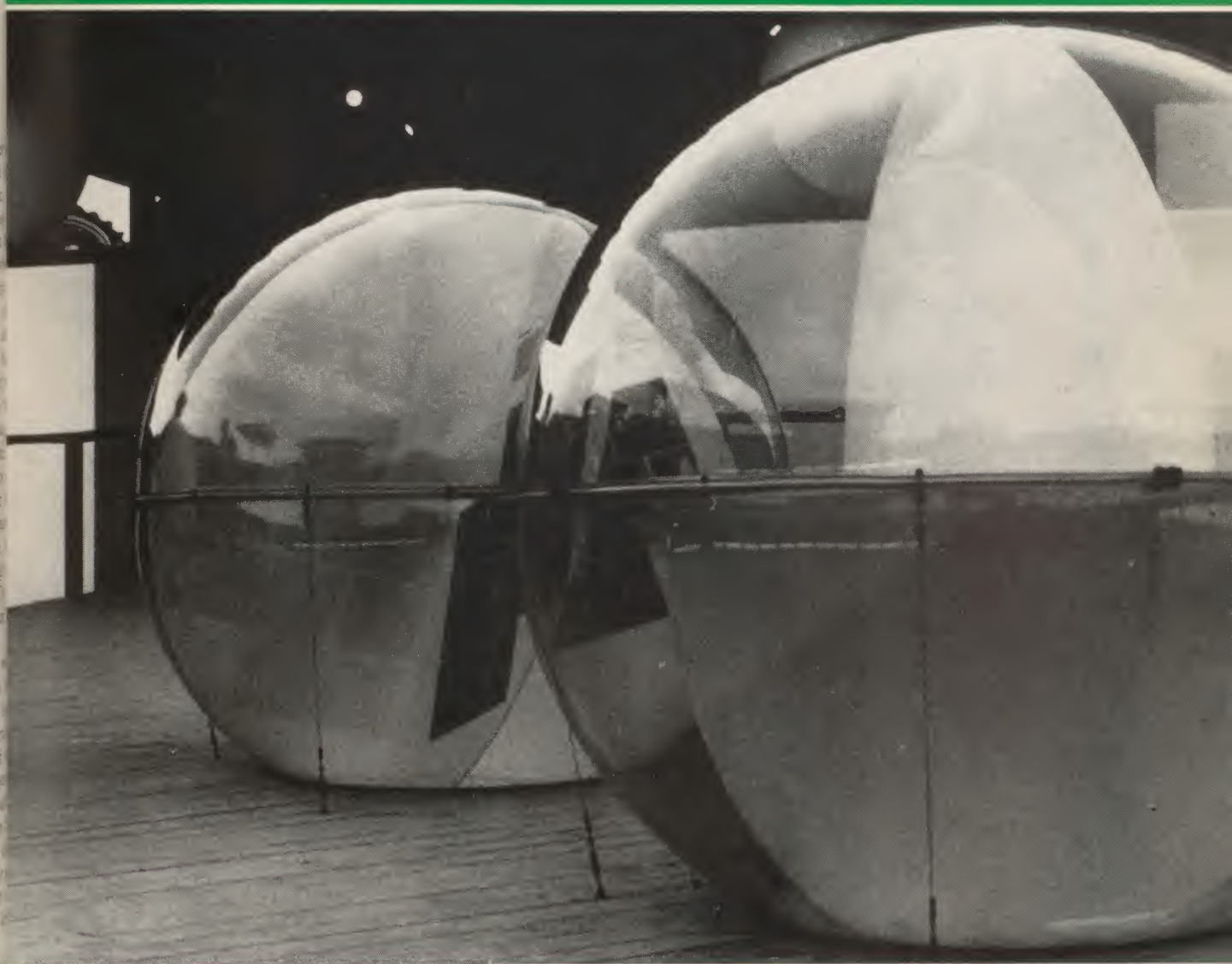


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MAN THE PROVIDER

MACDONALD COLLEGE JUN 1 1967



THE MACDONALD LASSIE



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COVER: It is perhaps symbolic that "Man and his World" is reflected in these immense plastic spheres at the entrance to the marketing exhibit in the "Man the Provider" pavilion at Expo. The theme is the story of Man's struggle to feed himself.

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THE STRANGERS AT OUR DOOR

It is odd indeed that a province so famed for its spontaneous hospitality has apparently made so few plans to host this summer's very large number of visiting farm groups. Of the 12 million or so out-of-province visitors expected for Expo, a considerable number will certainly be farm and rural people. Many will come, for this first visit to our country, as members of tours organized in their home country — England, France, Africa, Australia, many others.

Expo is their excuse for coming. But they will not be content to fly into Dorval, visit Expo for three days and fly out again. They will want to see the country and its people, and how they live and think. They will want to see the Agriculture of the province with their own eyes and meet the families who farm the land.

Yet, as farm people, we have made surprisingly few organized arrangements to welcome these groups and guide them around our province.

Certainly, as individuals and as families, we will be doing our very best to demonstrate traditional hospitality. We are opening our homes to relations and friends and friends of friends. We are happy to welcome them and are proud to show them the evidence of the remarkable development that is taking place in our province. We will take them as our guests to see our splendid dairy farms and our apple orchards, our new regional schools, and the miracle of our new highways. We will show them the beauty of the Laurentians and the magnificence of the rolling hills of the Eastern Townships, and perhaps even the northern lands of New Quebec, their potential bounding all imagination. And perhaps above all we will delight in demonstrating our good humoured and practical version of biculturalism and bilingualism.

But what about the farmers from overseas who come as nameless members of group tours? Will he see the province only through the shaded glass of a coach chartered for the day? Will he see only the misused lands around the cities, and the auto sumps and the separatists' slogans smeared on the walls, with no one to point out the beauty, the progress and the excitement beyond? Will we let him go home convinced the newspaper headlines do reflect the real picture?

No region on the face of the earth is moving forward faster than this province. Its agriculture, its education, its transportation system, indeed its whole social structure is going through incredibly rapid change. We who live in it find it tremendously exciting. It is our privilege this year to share it with our international neighbours.

For our own sake too, who can tell what benefits may follow, or what contribution we may make to our industry, our country and our world in this massive exchange of good-will and understanding.

There is still time for action. It is an opportunity we cannot let slip by.

Walker R. Riley

Editor's Note

As we go to press we learn that the Information Service of the Quebec Department of Agriculture has set up machinery to look after farm tours. If the groups arrange for their own transportation, a number of itineraries will be suggested, and the services of professional guides will be provided.

The Quebec Women's Institute and Le Cercle des Fermieres have also well-laid plans to receive people in their homes.

AT EXPO '67

MAN THE PROVIDER

The story of "Man the Provider" at Expo deals with one of the greatest problems of the world — providing food for Man. It depicts, primarily for people from the cities, the role of agriculture in the development of civilization and in today's society where millions are going hungry.



Standing in front of the Dairy Building in "Man the Provider" is Dr. Cyril Goulden, project director, and Dr. Howard Steppler, Pavilion Manager.

by Cyril H. Goulden*

Everyone will enter Expo '67 at the Place d'Accueil which in English will have the mundane title "Main Gate". Here the visitor to "Man the Provider" will take the Rapid Transit system to Isle Notre Dame and from there by the Minirail to the Agricultural station. At this point he will see the beginning of the 7½ acre site of "Man the Provider". On the immediate right in an elegantly landscaped area is the reception building where small conferences can be held, pictures shown or where sponsors can entertain.

Proceeding to a bridge just ahead, most of the site comes into view. On the right are the two Introductory buildings, and on the left is the Sun Acre where crops are growing in pie sections of a circular acre of land. The sections are divided by grass covered mounds and in the centre is an open area where the crops can be seen to advantage and where the visitor can rest and contemplate on the Cycle of Nature and on how Man can influence it to yield a greater abundance of food.

* Dr. Cyril H. Goulden, formerly Research Director, Canada Department of Agriculture, is Project Officer for Agriculture for Expo '67. This article first appeared in the Agricultural Institute Review, April, '67.

Over the entrance of the first Introductory building are four large circular ends of tubes that proceed back into the interior. Large figures on the face of the circles show that it is an electric clock, indicating a close connection between time and the nature of the exhibits to be seen inside. The four tubes turn to the right, come down to a height of about five feet and then flair out into cones and on the face of each is a screen. The first three faces make up a counter which goes from one to 140 in one minute and then starts over again. The overhead audio explains that this is the rate of the population increase in 1967. The fourth face contains 140 lights that go on in phase with the counter, building up to a total of 140 in one minute and then extinguishing and starting over.

Proceeding to the left the visitor enters an area formed by a group of eight large tanks or cylinders which have moving picture screens on the inside faces. On the eight screens there is a continuous melange of movie images picturing the world population and food situation. It is not a factual statement but one designed to create the experience of being in close contact with a world in which babies are being born, men and women are eating, living,

and playing and in which there is affluent living for some but for others nothing but the pangs of hunger and the devastating results of malnutrition.

A side exit leads into the second Introductory building. The previous atmosphere of flashing lights, sounds, and constantly changing images becomes one of peace and quiet with appropriate musical sounds. The first exhibit is Nature's Cycle which is designed to depict the cycle of birth, life and death within the principle elements of the environment: water, soil, air, plants and animals. Symbolically, the situation is one where Man is living as a mere unit of the total environment and has not yet learned how to influence it to better his existence. The exhibit is in the form of a large circle with a huge orange sun symbol in the centre. On the outside of the circle are graphic panels that create the mood of Nature's Cycle, while the sun symbol reminds us of the complete dependence of Man on its energy in the manufacture of food.

The second exhibit begins as the path from the previous one makes an abrupt turn and one sees on the turn a large panel with the words —

Man begins to control Nature's Cycle. Agriculture is born.

Civilization develops,

then a long curved walk and a corresponding panel with graphics. The graphics contain 60 pictures each representing a major step in Man's control over his environment. With each there is script pointing out the nature of the advance made in the technique of food production: The story begins over 250,000 years ago when Man discovered how to make and control fire. The important advances of the stone age are depicted, the slow progress of medieval times and finally the great advances in soil fertility which laid the foundation for the industrial revolution and the beginning of the present population explosion.

From this point on "Man the Provider" deals with modern techniques and what they could mean in increased food production. The next building tells of the soil. At the entrance is an eight foot sphere representing the world and the graphics tell of the small area of its surface on which there are soils that give support to all life except that of the oceans. Entering, the visitor passes into a dark tunnel simulating an underground passage. At the end is a movie screen showing some of the principle soil building factors and finally there are microscopic pictures depicting microbiological life. Having soil on which so much depends, it is important that we study and classify it so it can be used in the most efficient

manner for food production. The next exhibit, by means of a series of rapidly changing pictures projected on a floor screen, show the relative proportions of water and land, how it is studied in soil surveys, how maps are made and how these are utilized by the farmer.

The chief enemies of soil are water and soil erosion. In an area where the visitor is first exposed to the devastating sounds of wind and rain is a large sloping panel shaped like a kite on which the script tells of the destruction of soils by erosion and some of the methods used to bring it under control. In many parts of the world there is insufficient water for good crop production. One of the techniques now being developed on a considerable scale for bringing water to the crops is irrigation. This exhibit and the following one on soil fertility presents a quiet atmosphere in which the story is told on graphic panels. The soil fertility exhibit is perhaps one of the most striking in "Man the Provider" from the standpoint of the straight-forward statements made as to the great need for more fertilizer and of future demands which must be met if the battle for food is eventually to be won.

Crops

After soils the next logical subject is crops, dealt with in the next building. Here the predominant lighting effect is green. There is no spoken audio but the building is filled with electronic sounds which could, with a little stretch of the imagination, be considered as the magnified sound of growing plants.

Remembering our city audience, it is appropriate to present first some elementary answers to the question! What is a plant? As with most of the crops exhibits, the presentation is in the form of 4' x 4' x 4' cubes having faces displaying transparencies or script. Each exhibit is formed of either eight or 11 cubes arranged in three rows. Thus an eight cube exhibit will have two rows of three cubes and two in the middle. In each row the cubes are arranged corner to corner so that there is a changing view as one passes by.

After "What is a Plant" the subjects are Improving Crop Plants, Control of Insects, Control of Weeds and Control of Plant Diseases. This we think will bring together one of the most attractive exhibits of colour transparencies ever shown. They are made by a new process in which the colours are permanent and the rendition excellent.

The remaining portion of the Crops building contains first a display of honeybees at work. They will be seen in a glass cube which has an opening for them at the top and a square plastic

tube through which they can emerge through the roof and go out to gather honey. Within the cube they can be seen building and stocking a natural type of hive which is quite different from the standard form.

Next there is a series of nine glass cubicles each four foot square. These are chambers in which plants are growing and where the temperature, light and humidity are completely controlled. The crops grown will range from those typical of the rain forest of the tropics to bog plants of the north and flowering bulbs. The flowering bulbs are daffodils and hyacinths pre-conditioned at the Flower Bulb Research Institute in Holland, but forced and planted in Montreal. With a proper schedule of planting blooms are expected during the entire six months of the World Fair.

Making decisions

We call the next structure the Marketing building although actually it contains Farm Management, Marketing, Food Processing and Preservation.

Farm Management represents the making of decisions from an association of information from various sources with physical factors of the farm. The sources of information are represented by large balls travelling a path illuminated at points by such physical factors as animals, crops, seeds, and fertilizer. As the balls pass these points a light goes on representing a decision made. It is all very simple in concept but interesting to watch and cannot fail to leave an impression of the intricate nature of decision making on the farm.

The Marketing exhibit operates on a similar principle, but much larger balls and more intricate mechanisms are used. There are three chutes with green and red balls representing plant and animal products continually travelling down them. The three chutes represent the Supporting Functions, the Physical Functions and the Exchange Functions of marketing. Above the chutes four foot balls are suspended which are animated as the product balls pass underneath. Each of the large balls symbolizes a sub-division of the marketing function.

On the floor are still larger stationary balls containing script which defines marketing and points out the necessity of efficient market facilities if food from the farm is to reach the consumer at minimum cost.

Still with the ball motif, Food Processing and Preservation is shown in the interior of four plastic spheres six feet in diameter. They contain sloping planes carrying graphics and arranged in such a way that the observer is drawn around them in a circle to view the exhibit. Again as with all of the exhibits

in "Man the Provider", statements are made on the importance of the various techniques in making more food available to more people.

The mechanization of farming has been one of the major technological advances responsible for increasing the output of food per unit of farm labour. This is the subject of the next building to be viewed as the visitor proceeds around the site. One of the walls of the mound at the side of the building has been made of steel, concrete, and wood. It sits up at an angle of 57° and is over 100 feet long. On it will be mounted five large farm machines, those used normally in large scale grain farming. Below each machine is script showing what the machine does and what it replaces in terms of man and horse labour. This is undoubtedly the largest single panel in Expo with a three dimensional display.

Walk on eggs

Inside the building the designers have evolved what might be termed a mechanical experience. On entering, the visitor finds he has to walk on eggs. This is done by means of a moving picture projector which throws on the floor of the entrance passage a picture of continuously moving trays of eggs. The interior beyond consists of conical structures truncated at the far ends where moving picture screens are located. There are 10 of these all showing a different type of mechanical motion with appropriate sounds that are in part actual and in part artificial. The insides of the cones are of polished aluminum in which the pictures will be reflected with the result that the viewer finds himself immersed in a panorama of movement and sound.

For the children, there is the Children's Farm, located just back of the Marketing and Mechanization buildings. It consists basically of a depression in a continuation of the mounds and contains mostly the smaller types of farm animals and also poultry. The motif in the display is the mother with young. Therefore, there will be pony mares and donkeys with colts, a cow and calf, sheep and lambs, goats and kids, pigs and piglets, hen and chickens, ducks, and ducklings, etc. Appropriate script will tell the children of the part that the various animals and birds play in providing them with food.

To add further interest in animals, there will be at the far end of the area a trained animal act. The animals in this act will be hens, pigeons, rabbits and ducks. They will perform an act which will be original with Expo and for which they have been undergoing training since June 1966. It will be naturalistic in that the animals will perform in a natural manner and will

not be doing things normally done by humans. The trained duck for example will come quacking out onto the stage, slide down a chute into a stream of water and swim to a pond where she will dive for a small fish. Following the naturalistic act will be a performance on a miniature stage demonstrating that certain animals can detect objects by their colour and others to show selective action based on the sense of smell. The operator will demonstrate also that the most effective training method is one based on kindness and providing rewards for required action.

Living animals

The remaining buildings involve poultry, cattle and pigs. The poultry building contains a broiler production exhibit in which chickens will be introduced at 4½ weeks and will finish at nine weeks. This is not a practical broiler programme but one designed to show the rapid growth and efficiency of the production of poultry meat. A laying hen display will be a fully operative and completely automatic unit. Another unit demonstrates by means of live birds the progress in poultry breeding beginning with the wild fowl and proceeding to the present cross breeds of extremely high efficiency. In another area there will be an incubator in which either chickens or turkey poult will be continuously coming out of their shells during the entire period of the Fair.

We pass next to a building devoted to the improvement of animals. Mainly cattle are involved although there is a small exhibit on the breeding of pigs. Parenthetically this is a good place to emphasize that the whole object of "Man the Provider" is to tell stories of accomplishment and what this means to food production techniques. There is no attempt to cover the whole field of agriculture wherein it would be necessary to extoll the accomplishments of each breed association or plant breeding progress with each agricultural crop and so forth, in an endless and monotonous series of repetitions. The animals, plants and machines selected are there because with them it is convenient to tell the story.

In Animal Breeding there is first a rangy Longhorn steer compared with a steer of a modern breed. Six pens show some of the more important world breeds of cattle that have been developed — this within the limits of what can be imported into Canada and therefore considerably restricted in scope. A Cross-Breeding exhibit shows six steers of different breeds and corresponding single and triple cross steers produced from practical cross breeding programs. A display on artificial insemination shows the procedure and its advantages, a movie of bull sperms and two live

animals. One of these known as the Son of the Year is a calf whose father died 10 years ago. This demonstrates the successful storage of semen. A large Holstein bull known as the Father of the Year represents a bull whose daughters have demonstrated by their performance that he is approved for breeding and improving dairy herds.

Here too is an exhibit on Maintaining Animal Health. It names some of the more important diseases and tells of their devastating effects in terms of losses of food. The modern role of animal medicine in disease prevention is emphasized and the need for coordinating legislation by different countries.

The transparent cow

The last and ninth building is the Dairy. On entering the visitor encounters the Transparent Cow which is actually a box eight feet high, 14 feet long and six inches thick in which there are seven large holes representing the elements of a cow's digestive tract and the udder. On the inner rim of these holes are coloured lights which are programmed to light up in the order that the food passes through the digestive tract and becomes milk. It demonstrates the efficiency of the ruminant in turning roughage into food for Man.

On the right is a modern milk room and beyond it a cheese factory that will be in continuous operation turning out about 750 pounds of cheese per day. In the centre is a row of top-ranking dairy cows representing the breeds Holstein-Friesian, Ayrshire, Guernsey and Jersey. These are loaned by individual dairy breeders and arranged for through the National Dairy Breeds Committee. They will be accompanied by script indicating the value of milk and milk products in the nourishment of Man and the efficiency of the cow in the process.

Also in this building is an exhibit on Scientific Feeding. It will be a large panel exhibit and will deal with the procedures of food analysis, determination of food requirements, the scientific formulation of feeds, the use of the computer to arrive at economical feeds and the mechanical process of mixing and delivery of feeds at mixing stations where operations are programmed from punched cards.

Back to the sun acre

The exit from "Man the Provider" allows for another look at the Sun Acre and there are many benches on the site to allow for resting periods if the visitor should be so inclined.

Exhibit Manager, Professor Howard Steppeler wishes to extend to everyone a hearty welcome to "Man the Provider". □

Poultry Improvement Through Crossbreeding

By R. O. Hawes*

WORK DONE WITH CHICKENS CAN APPLY TO LARGE ANIMALS



Expo — a "male line" selected primarily for conformation and growth rate. Average 8 wk. weight for males 3.0 lbs., females 2.2 lbs. Males from this line would be mated to crossbred females from Arkansas Silver x Large White to produce a commercial broiler.

At the present time over 90 percent of all poultry entered in Random Sample Tests in the U. S. & Canada are the result of some form of crossbreeding. But what's so great about crossbreds? What happened to Rhode Island Reds, Barred Plymouth Rocks, Light Sussex? Even White Leghorns aren't sold as White Leghorns any longer but as Shaver Starcross, Hy-Line 934-D, Hubbard Comet, H. & N. Nick Chick, etc. Remember the old Rhode Island Red which used to keep the family in eggs and supply an occasional fowl for Sunday dinner? That was a real "dual purpose" breed.

These "antique" breeds have had their day in commercial production. The great surge of popularity enjoyed by broiler chickens in the 1940's meant that we needed specialized lines for meat production. The old dual-purpose breeds simply couldn't do the job of producing both eggs and meat economically. So at present all commercial broilers, just as with the commercial egg producing birds, are crossbreds. Turkey breeding is following a similar

pattern; most commercial birds are 2-way or 3-way crosses.

But does crossbreeding improve all traits? In poultry breeding, as in all animal breeding, we need to select for many traits simultaneously. In the egg-type birds, the breeder selects for high-egg numbers, large-egg size, good-feed efficiency and small-body size. In broiler and turkey lines the breeder selects for rapid growth rate, high-feed efficiency, good conformation and low mortality, with not much emphasis on egg production. Some of these traits are easier to select for than others. It is easier to make progress when selecting for growth rate than for egg production. It is easier to improve body conformation by genetic selection than to improve fertility. Is crossing the final answer for improving all these traits?

Crossing Boosts Traits Difficult to Improve by Selection

It is fortunate for the animal breeder that the traits such as egg production, fertility and hatchability which are difficult to select for in pure lines, show the greatest improvement in a crossbreeding program. The reverse is true of traits such as growth rate, feed conversion and conformation. While these respond fairly well to selection in pure

lines or breeds, they show less improvement in a crossing program.

Some figures from a turkey breeding experiment carried out at Macdonald College and at La Ferme Ecole Provinciale Deschambault* may help to illustrate this point. The Macdonald and Charlevoix strains and their reciprocal crosses were compared at the two farms for growth rate and egg production (Table 1).

The body weights of the crossbred birds are intermediate between the two parents. Thus in terms of growth rate alone there is no real improvement gained by crossbreeding. The big difference is in production. Both types of crosses performed better than the best pure parent, (i.e., the Charlevoix).

The *crossbred female* is the real key to a successful crossing program. Many large animal breeders do not utilize this potential. The crosses are produced but both sexes are marketed; the crossbred female should be retained for future breeding.

Let's look at more figures, to see the effect of crossing on reproduction and growth rate (Table II).

In Table II the difference in egg production and fertility were not great; there was no significant improvement

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from using a crossbred female. It must be remembered that a strain cross utilizes a purebred female; it is the poult not the dam that is the crossbred in mating #2. The back cross (#3) is the mating of a crossbred female back to one of the pure lines while the 3-way cross (#4) is the mating of a crossbred female to a third breed of male. The big difference in these matings came in hatchability. Matings #3 and #4 produced 4 to 6 poults more per dam which is an important increase. In terms of growth rate there are no differences between matings but because of the greater number of poults produced, matings #3 and #4 produced more pounds of meat totally. The mortality of crossbred animals is generally lower than pure line animals which also means additional pounds of meat at market age.

Use of "Male" and "Female" Lines Important

When making crosses between pure lines or pure breeds it is important to know which line should serve as the male parent and which one the female parent. The present interest in dairy-beef crosses illustrates this point rather well. In all cases we use the beef breed as the male parent and the dairy breed as the female parent. It would be of little value to make the reverse cross because of the poor milk production of beef cows. Milk is of course the most important item in a cow-calf operation. This is perhaps an extreme case of a difference in reciprocal crosses. Let's look at some figures collected at Macdonald College showing the level of production of crossbred meat-type chicken females as influenced by the direction in which the cross is made.

Most commercial broilers are the result of a three-way cross. A crossbred female bird is mated to males from a third meat-type line. Table III shows how the egg production and progeny performance of these 2-way cross females may differ between reciprocal crosses.

The improved egg production of the Arkansas White X Large White and Arkansas White X Arkansas Silver means more chicks from these types of females and consequently more total pounds of meat.

In terms of body weight at eight weeks there is less difference between the two types of crosses. The major difference is in egg production. As was shown in Table II the number of offspring produced by the crossbred female will influence the total pounds of meat at market age. It appears that all crosses between lines should be made in both directions to determine if differences exist. If there are large obvious differences in the two lines as is the

Table I A Comparison of Two Pure Lines of Turkeys and their Reciprocal Crosses for Body Weight and Egg Production.

Parents	Body Weight (lbs. at 22 wks).		% Egg Production
	Male	Female	
Macdonald × Macdonald	21.2	14.4	44.3
Macdonald × Charlevoix	19.3	12.6	62.4
Charlevoix × Macdonald	18.6	11.7	60.0
Charlevoix × Charlevoix	18.0	12.0	51.3

Table II Effect of Mating System on Reproduction and Growth Rate in Turkeys.

Mating System	Ave. no. eggs set/dam	% Fertility	Ave. no. poults. hatched/dam	24 week body weight of poults. (lbs).	
				Males	Females
1) Pure Strain	28.6	82.0	14.4	22.0	14.5
2) Strain Cross	24.5	77.0	12.9	22.2	14.9
3) Back cross	28.1	86.0	18.0	22.2	14.6
4) 3-way cross	28.8	85.0	18.1	22.2	14.8

University of Ohio

Table III A Comparison of Reciprocal Crosses for 8 Week Body Weight and Egg Production.

Male	Female	8 week wt. of crossbred females (lbs).	Egg Production of crossbred females (%)
Arkansas White x Large White		2.25	89.4
Large White x Arkansas White		2.45	76.0
Arkansas White x Arkansas Silver		2.40	77.6
Arkansas Silver x Arkansas White		2.40	66.3

case for milk production in dairy vs. beef females the testing of the reciprocals is probably not necessary. However, in many instances, differences are not obvious and such testing may be very beneficial.

At present most of our commercial egg producers, our broiler and turkey meat birds and our swine are the result of some type of crossing. The time is coming in beef cattle too when we will be making more use of the improved maternal qualities of crossbred females. On a recent C.B.C. Farm Broadcast, Dr. Sumption of the C.D.A. Farm at Lethbridge, Alberta reported that weaning weights were 10 to 15% higher for cross-breed beef calves. But the real pay-off according to Dr. Sumption comes from the improved reproductive performance of the cross-bred dam.

Perhaps we need to add a note here in regard to the pure-line breeders. The quality of a crossbred is definitely influenced by the pure-lines that are used to produce it. Therefore, rather than fewer pure bred birds and animals being

needed in future years, we're actually going to need more and better pure-breeds for crossbred production. As was shown in Tables I and II, traits such as growth rate don't generally respond as well in a crossing program as do traits such as fertility. Growth rate and feed conversion however can be more easily improved in pure-lines than can "maternal" traits such as egg production, milk production, fertility etc. Therefore there is a definite job for the pure-line breeder. But, pure-line improvement can only be accomplished by an accurate record keeping system and selection of individuals on the basis of their performance. Unfortunately type and performance are not always related to one another in a positive manner.

The author wishes to express his appreciation to Mr. George Blais, Poultry Division, C.D.A., Quebec City, and the Staff at La Ferme Ecole Provinciale Deschambault for the management of the birds and the collection of data at Deschambault. □

Three Systems of Swine Management

by P. Y. Hamilton,

Department of Animal Science

The practice of tying sows by the neck is causing much interest. Based on one year's experience, observations at Macdonald College are presented here. This is the first of a series.

The swine breeding herd at Macdonald College is made up of 70 brood sows, 6 boars and sufficient gilts to maintain the brood sow herd at 70. Replacement rate in the sow herd will be high in the next couple of years because of rather radical changes in management and breeding, and because of the recent increase in size of the breeding herd.

All three of the common breed are included in the breeding herd. About $\frac{1}{3}$ of the sows are registered Yorkshire, $\frac{1}{3}$ registered Landrace and Lacombe, and $\frac{1}{3}$ are the result of various crosses between these breeds. At present there are two Yorkshire boars, 2 Lacombe boars, 1 Landrace boar and a very recent addition, a Large Black boar. The diversity of breeds and quality of sires is due to a fairly complex breeding program that is in progress.

The feeder hog facilities are restricted at present to a research barn with a capacity of 160 market hogs or a yearly output of about 500 hogs. (Pigs are started in this building at 8 weeks of age.)

With the output of the 70-sow herd expected to be over 1000 in the coming year, more than half of the pigs will be sold at 8 weeks as feeders.

BUILDING AND EQUIPMENT. The buildings that house the facilities for sows and litters, remembered best as the "Old Piggery," was entirely renovated in the fall of 1965. As a result of modernizing the facilities, the same building now has twice the capacity for stock, and includes a semen collecting room, a laboratory room for processing semen and blood samples, and a classroom. A liquid manure system has been installed utilizing gutter cleaners and a 37,000 gallon collection tank. Facilities have been installed for bulk

feed handling. The building contains the dry sow and farrowing facilities for 70 brood sows, and separate facilities for raising the weanling pigs from 3 weeks to 8 weeks of age. The boars and replacement gilts also occupy a section of this building.

Dry sows are kept under 3 management methods: tied by the neck, individual crates, and pens.

THE TIE STALLS. A double line of tie stalls with sows facing a feeding alley provides for 14 sows. The sows stand on a 5-foot-long concrete platform that ends with a gutter 10" wide and 8" deep. The width of platform allowed for each stall is 2 feet. The gutter drains to the automatic cleaner which runs the full length of the dry-sow section. Cleaning is done quickly and easily by pushing a hand scraper down the 15-foot length of gutter once or twice a day.

Various methods have been used to tie the sows including leather straps, rope, chains and metal collars. Chains and ropes were not satisfactory because of damage to the neck of the sow. Leather straps, if heavy enough, are fairly satisfactory but are subject to excessive wear and, on some sows, are inclined to cut into the skin or slip off entirely. The metal collars have been entirely satisfactory and all other neck ties are being replaced with them. We are using the metal Fairfield Collars. There has been very little difficulty in introducing sows to the ties. Most sows do not fight the tie, even when first introduced. One sow after being tied for about $1\frac{1}{2}$ gestation periods stayed in her stall for a month without being tied.

The odd sow has so little neck that there is difficulty keeping a strap on. The metal collars, we believe, will solve

this. One sow simply would not conform to the tie stall.

No bedding is used and there are some foot problems from hoof wearing. This problem is no worse, however, than in crates and pens.

Our experience (and this includes the observations of our swine herdsman, Ted Sutherland) with ties, to date, is a favorable one. Sows stay clean and require a minimum of labor and space. Most important, ties make identification of sows simple and allow for more thorough individual sow management.

The problem with tying sows, as we have observed, is identifying estrus.

CRATES. The dry sow crates are arranged in the same double line of seven as the tie stalls. The standing platforms are the length of the commercial crates which is $7\frac{1}{2}$ feet and the gutter system is the same as with the tie stalls. The crates are 2 feet wide and are equipped with feeders and waterers.

Our experience with keeping dry sows in crates is as unfavorable as the tie stalls are favorable. The sows are inclined to be dirty, the pens hard to clean and the sows more difficult to observe than those in ties. Part of the problem is that the crates are too long for most sows. Smaller sows lie in manure made when standing forward in the crate. A variety of lengths of crates would help to solve the problem. This would mean the length of the standing platform would have to vary also. Our experience does not warrant the cost of crates as a method of keeping dry sows.

PENS. Three dry-sow pens have a capacity of 14 sows each. The sows run loose but have individual head stalls for feeding. Floor space per sow is 24 square feet. The head stalls are 22" wide and are located along the full

length of one side of each of the pens. The existence of the head stalls in the bed area does not appear to affect the proper operation of the pens. The floor slopes below the level of the alley at the low end of the pens. This allows the manure to pass under the lids of the gutter-cleaner which passes by immediately outside the ends of the pens. The heated water bowls are located in the low end of the pens. Close observation at feeding time, and the uniform condition of sows in these pens indicate there is little shifting from one head stall to another at feeding time. The head stalls appear effective in preventing strong competition when all sows are fed about equally. Attempts to feed extra feed to certain sows after they are in position, however, usually disrupts the order and is not effective in meeting the objective.

If the sows are fairly even in size, and stage of pregnancy, this method of feeding dry sows appears satisfactory.

Our experience with these pens has been generally favorable. The labor requirement is low and the sows keep reasonably clean without bedding. As with any pen system, it does not provide for effective individual observation.

Our experience to date with the three methods of housing would rule out the crates, give priority to the tie stalls, with reservations that a pen or pens be available to release sows if there is difficulty detecting estrus; and give second place to pens, which are a compromise as far as management is concerned, but are lower in costs and better for estrus detection.

Costs on the basis of the commercial equipment in our building are lowest for sows in pen, about one third more per sow for ties and more than twice as much for sows in crates. We are presently attempting to measure the actual production performance of sows under these three methods of dry-sow management.

FARROWING FACILITIES. The farrowing facilities are made up of 4 batteries of 4 farrowing crates each. These are commercial crates and are quite conventional. Floor heating is installed under the creep areas as well as lamps for light and warmth from above.

The sows are removed from the crates when the little pigs are 3 weeks of age. After about 3 days they are moved to another section of the building where they are raised to 8 weeks of age. □

The three management systems used at Macdonald College are illustrated here. In order are: (1) tie stalls, (2) crates, and (3) loose pens with individual manglers.



Compiled by T. Pickup of the Information and Research Service,
Quebec Department of Agriculture and Colonization.

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PHOTOGRAPHS BY
OMER BEAUDOIN

MORE INDEPENDENCE FOR A.I. CLUBS



Holstein cattle on a Quebec farm. Semen from the A.I. center at St. Hyacinthe is being used to improve herds such as this one.

"The Department of Agriculture and Colonization will soon restore complete autonomy to artificial insemination clubs and let them assume responsibility for their own affairs from now on," Mr. Roméo Lalande, deputy minister of the Department, told a group of A.I. technicians at their recent meeting in Saint-Hyacinthe.

Up to the present, the artificial insemination fee for cattle has been uniformly regulated throughout the province at a standard charge of \$5 per cow. Mr. Lalande said that it is not the department's business to fix the cash value of this service. Only local organizations can do this with full knowledge of the facts.

Mr. Lalande explained that in view of this, the department would henceforth provide cattle breeding clubs with frozen semen at fifty cents per ampoule and leave it to the local organization to decide how much to charge the farmer for the insemination and how much the inseminator should be paid.

The deputy minister also disclosed that a new artificial insemination act is now being drawn up with the twofold object of protecting the farmers and the inseminators. It will control the entry of all animal semen into Quebec and also establish the status of inseminator so that no A.I. service may be rendered except by an officially recognized inseminator technician.

The Department of Agriculture and Colonization will begin building new barns at the Artificial Breeding Centre at Saint-Hyacinthe this year and will thus be able to start a progeny-testing programme for young bulls in the near future.

1967 SUGAR BEET ACREAGES



A field of sugar beets under irrigation on the farm of Henri Lamarque at St. Rémi, Napierville.

By April 3rd 1967, 950 contracts entailing the seeding of a total area of 9,978 acres had been signed between the St-Hilaire Refinery and sugar beet growers. On April 13th, another 50 growers signed, bringing the number of contracts up to 1,000 and the total acreage to 10,500.

Assuming, on the basis of past experience, that about ten per cent of the contracts will not be fulfilled for one reason or another, and that the crop will be a normal one, the St-Hilaire Refinery will be in a position

to operate as economically as is possible this fall with the anticipated yield.

The yields obtained in 1966 and the prices paid for them have certainly helped to make the sugar-beet fieldmen's task an easier one. The introduction of mechanical thinning may also have had something to do with the fact that the old growers are continuing to raise sugar beets and new ones are starting.

It is no secret that thinning the young plants in the field is the beet grower's "bête noire", requiring costly and often scarce help; but mechanical

thinning in conjunction with the use of pre- or post-emergence herbicides simplifies the thinners' work by about fifty per cent.

For pre-emergence spraying, Pyrazon (Pyramin) 80-W with TCA added to it is applied from three to six days after seeding. Pyrazon destroys the broad-leaved weeds and TCA the narrow-leaved ones, for example grasses such as green fox-tail grass. For post-emergence spraying, Pyrazon in emulsion with a special oil is applied when the young beet plants have two to four leaves.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

René Dubuc of St. Isidore, Laprairie, in his twelve-acre field of Hardome soybeans.



SOYBEAN COMPETITION

A meeting was held at St-Hyacinthe on March 30th with the object of organizing a soybean growing contest. At the meeting, which was under the chairmanship of Mr. Bernard Cossette, the county agricultural agent, and sponsored by the county Agricultural Society, about twenty farmers agreed to take part in the contest and undertook to sow at least two acres of soybeans for the purpose.

The effort to encourage soybean growing in Quebec follows consistently successful results obtained with this crop over the past dozen years by Mr. Philippe Granger, manager of the St-Hyacinthe Dairy School farm. Mr. Granger's yields have never been less

than 30 bushels to the acre. Soybean yields for the United States, where this plant grows very well, average 25.2 bushels to the acre. In 1966, when the average yield for Ontario was 32 bushels, the St-Hyacinthe Dairy School farm harvester 40 bushels to the acre.

Use of soybeans

Soybean meal is widely used as an ingredient in livestock feeds. Soybeans can also be sold to commercial firms which extract the oil from them for use in a great many manufactured foods.

The cash value of a soybean crop compares favourably with that of any other legume crop.

10 PER CENT INCREASE IN REIMBURSEMENT OF SCHOOL TAXES TO FARMERS

Again this year, Quebec farmers will receive a reimbursement of part of their school taxes for the financial year which is ending. The rate of reimbursement which, last year, amounted to 25 per cent, has been raised to 35 per cent. A translation (unofficial) of the complete text of the order-in-council adopted by the Government in this regard, appears below.

ORDER IN COUNCIL EXECUTIVE COUNCIL CHAMBER

N° 592

Quebec, March 13, 1967.

Present : The Lieutenant-Governor in Council
CONCERNING the reimbursement of 35 per cent of
1966/1967 school taxes to farmers, and by-laws.

WHEREAS by virtue of section 6 (VIII Finance) for the financial year 1966/1967, an amount of \$5,600,000.00 is provided for to reimburse each farmer of the province, or pay on his behalf, 35 per cent of the school tax for 1966/1967 on his farm, including his agricultural buildings and his residence erected thereon, all in accordance with the by-laws of the Lieutenant-Governor in Council.

WHEREAS there is reason to make this reimbursement or this payment and to establish by-laws for this purpose.

IT IS CONSEQUENTLY ORDAINED, on the proposition of the Minister of Education :

1° THAT, for the purpose of the by-laws adopted by virtue of the present order-in-council, the following expressions shall signify :

a) *Farmer* : any proprietor of a farm exploited as a principal occupation by himself, his family or his children, or by a tenant or farmer who so exploits it; or

any holder or occupant of a farm thus exploited who is the proprietor thereof, within the meaning of the Education Act; or

the proprietors in partnership of a farm thus exploited; excepting in all cases :

a) companies which are proprietors of farms other than those formed by the proprietors of family farms;

b) proprietors of farms exploited for other than agricultural purposes, such as speculations, development of building plots, quarries, camping grounds or trailer parks, tree farms.

b) *Farm* : any immovable effectively exploited for the purpose of one or more enterprises of an agricultural nature, having an area of at least 10 arpents (8.45 acres) including the agricultural buildings and residence erected thereon.

2° THAT every farmer is entitled to the reimbursement of 35 per cent of the 1966/1967 school tax on his farm,

according to the collection roll of the school board homologated for the current fiscal year;

3° THAT the Minister of Finance is authorized to pay directly to *each farmer* the amount of the reimbursement entered with respect to his name on the reimbursement list prepared by his school board and approved by the Department of Education;

4° THAT reimbursement lists be prepared by each school board in accordance with the instructions and forms supplied by the Department of Education and that they be signed and certified by the Secretary-Treasurer under his oath of office;

5° THAT reimbursement lists be completed, verified and forwarded by the school board to the Directorate of Finance of the Department of Education before April 1, 1967, or during the month following approval of the school board's budget by the Department of Education;

6° THAT each of these lists, duly approved by the Department of Education, be forwarded promptly to the Minister of Finance so that he may make the payments to the farmers who are entitled to them, by means of a cheque payable jointly to the farmer and to the school board;

7° THAT the sum of \$5,600,000.00 required to reimburse each farmer of the province or to pay on his behalf 35 per cent of 1966/1967 school taxes on his farm, including his agricultural buildings and his residence erected thereon, be appropriated by virtue of section 6 (VIII Finance) for the 1966/1967 financial year, and subsequently, as the case may be, under the corresponding section of the credits voted annually for this purpose, by the Legislature, for the Department of Finance;

8° THAT Order-in-council number 205 of February 3, 1967 be repealed.

JACQUES PRÉMONT,
Clerk of the Executive Council

This page supplied in the interests
of the Family Farm by the Quebec
Department of Agriculture and
Colonization.

GARDENTREAT SWEET CORN



A field of hybrid Spancross sweet corn in a farm garden in northwestern Quebec.

An early, good quality sweet corn for Canadian gardens this year is the new first generation hybrid, Gardentreat. It was developed by V. W. Nuttall and L. H. Lyall of the CDA's Ottawa Research Station which recently introduced it for commercial use.

Tests have shown that Gardentreat is adapted as a garden corn across Canada from Prince George, British Columbia, to York, Prince Edward Island. It has found good acceptance as a market type at several locations, including: Prince Albert, Saskatchewan; Kars, Ontario; Montcerf, Quebec; and Fredericton, New Brunswick.

Gardentreat reaches table maturity

with Spancross and is one or two days earlier than North Star and Sunnyvee. It produces considerably more usable ears than any of the three standards mentioned and has choice eating quality. For best performance, it requires a continuous and adequate supply of moisture as well as the fertilizer and plant spacing recommended for the region where it is grown.

The 12-rowed ears look small because of a short husk and a slim core, but, when the husk is removed, they have a good appearance and a greater length than either Spancross or North Star. The kernels are exceptionally tender, and are sweet with good flavor,

providing an overall eating quality that is superior to the older varieties.

To produce this hybrid, two inbred parent lines are crossed. One parent was derived from the well-known Dorinny and the other from Dorking, both of which were introduced by the former Experimental Farms Service at Ottawa in 1931 and 1936 respectively.

Seed of Gardentreat is available this year from W. H. Perron and Company, Chomedey (Laval), Quebec. By 1968, it will be listed by seed firms in both western and eastern Canada.

(From "This Month with CDA")

MAPLE PRODUCTS HEAD

The Minister of Agriculture and Colonization, Mr. Clément Vincent, speaking at a dinner arranged in connection with the maple sugar festival at Plessisville, announced the reorganization of the branch of his Department which deals with maple production and the appointment of Mr. Jean Guilbault as director of the newly transformed unit.

Mr. Guilbault, who is 27 and a native of Joliette, holds a master's degree in agriculture from the University of Toronto.

After touching on the origins of

maple syrup making in Canada, Mr. Vincent complimented the organizers of this annual festival.

"We are fully aware" he said "of the value of an organization such as yours pursuing the truly praiseworthy aims of developing and improving our maple groves by holding a contest to choose a Maple King, and by organiz-

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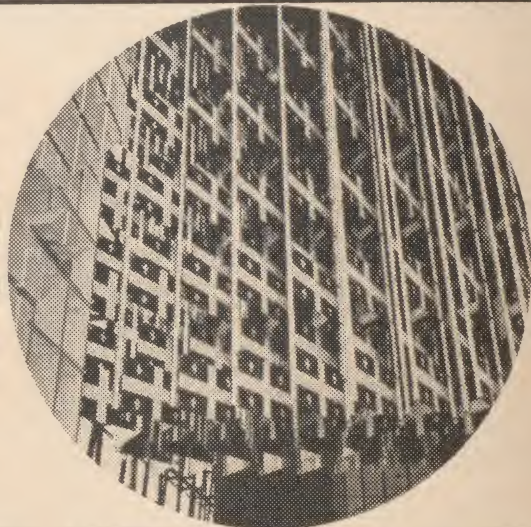
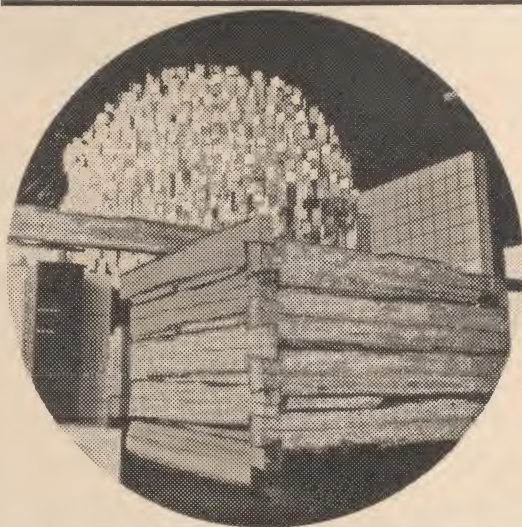
ing meetings, exhibits, film-showings, lectures and sugaring parties and thus encouraging the producers to maintain their sugar bushes and make a wide variety of maple products". Mr. Vincent also remarked on the excellent publicity provided for this Quebec industry by the festival.

Last year, Quebec produced 2,802,000 gallons of maple syrup and 434,000 pounds of maple sugar, that is to say about 90% of the total Canadian production of 3,129,400 gallons of syrup and 496,000 pounds of sugar.

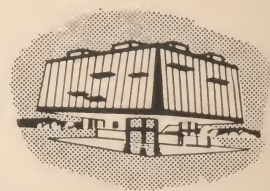
visit the Québec Pavilion

spirit of a proud province

Light and sound. Images of a rugged country, the most beautiful in the world. The heartbeat of a courageous people. Diamond sparkling between sky and water. Song of a young nation, clear and confident, its face to the future.



AT EXPO 67
PAVILLON DU QUÉBEC



Φ

The Month With The W. I.



ARGENTEUIL: Women's Institutes throughout the County held their Annual Meetings. Conveners read reports which gave evidence of the past year being both active and successful. Installation ceremonies and payment of fees marked the beginning of another year. This being Centennial Year, many plans for special projects will unfold. The annual project of Christmas Stockings for Canada's Save the Children Association, is now being held in most branches. **Dalesville-Louisa** held discussion on the Drama Competition and Fair work was encouraged; patriotic song to be sung at each meeting during Centennial Year. **Frontier** welcomed a new member. **Jerusalem-Bethany** discussed the need of a projector, so that films which are available from Macdonald College and elsewhere might be shown. **Pioneer** held a luncheon meeting at the home of Mrs. H. McQuat; shower of cards sent to shut-ins and elderly persons for Easter; each member was given a Centennial Lapel pin; it was suggested that a "heavy fine" be levied against members who serve more than one kind of refreshments with tea or coffee. **Upper Lachute East End** remembered sick persons with cards; the finished afghan for the Red Cross was on display; a quilting bee planned.

BONAVENTURE: **Black Cape** welcomed a new member, Mrs. LeQuesne, and mourned the loss of their late member, Mrs. Vincent Maclellan; Mrs. Starrak led a discussion on Do's and Dont's, and duties of officers, conveners and members; enjoyed an evening with parents and teachers of the High School; Mr. Gage of the Regional School Board addressed the gathering. **Cascapedia** welcomed two new members; held a social evening in the hotel lounge to raise Branch funds. **Marcil** welcomed a new member; members now serve lunch to night-school students in Shigawake-Port Daniel School. **Matapedia** held a baby shower for their secretary, Mrs. MacNaughton; Mrs. V. Folle, President displayed the hand-hooked rug, a Centennial project: not long after the meeting, Mrs. Folle died, and the QWI regrets the sudden loss of a valued member.

BROME: **South Bolton** members gave good health hints; enjoyed a most welcome visit from County President, Mrs. G. Patton, and Past President, Mrs. Westover; Branch will entertain County Convention; plastic curtains donated for the hall. **Sutton:** Guest speaker was Miss Ruth Low, Social Worker under the Brome County Family Services; her talk was much enjoyed, and made members realize how each person can help in welfare work by giving a little of one's self, and by caring about others; Centennial pins given to all members; as one of our Centennial projects, Mrs. Westover was asked to purchase a red maple, to be planted in the new park at the entrance of Sutton; Mrs. J. Cowan and Mrs. M. Vincent are in charge of the flowers we are planting in front of the Town Hall.

CHATEAUGUAY - HUNTINGDON: **Aubrey-Riverfield:** Mrs. H. Robertson, County President, reported on Semi-Annual, speaking about the Leadership Course, work of the Montreal Council of Women and on competitions; sent donation to Chateaugay Valley Music Festival; donation to missionary, rather than Christmas Stocking project; mystery parcel donated by Mrs. Walsh, won by Mrs. O. Orr; card sent to hospitalized member. **Dundee:** displayed Easter bonnet made from plastic lace doily, decorated with yellow daisies; one member demonstrated how she was making a cushion with the Centennial symbol prominent in all its bright colours; donated prize money to Huntingdon Agricultural Fair. **Hemmingford** heard Senior Students public speeches, given again for the benefit of adults unable to attend the daytime contest; Branch membership renewed for Douglas Memorial Hospital. **Howick:** Book review by Mrs. R. Younie; one member displayed a beautiful Paisley shawl, over 100 years old and in perfect condition; plans made to beautify a corner on Highway 4, near Howick. **Huntingdon:** Miss Turner read "Stepping Stones — Canada", important events in Canada's history from the Constitutional Act in 1791 to 1949 when Newfoundland became the 10th Province; showing of Christmas stockings and their contents. **OrNSTOWN:** Mrs. H. E. Palm-

er, Provincial Convener Publicity, gave address on how publicity can serve the W.I., with some suggestions on how to promote further publicity; quiz on the number and the names of Prime Ministers of Canada from 1967, won by Mrs. Ovans and Mrs. C. Petch.

COMPTON: **Brookbury** sent maple sugar and a crotched-trim handkerchief for FWIC Convention. **Bury** heard an address on Home Decoration followed by a contest "Decorating Rights and Wrongs"; are planning to set up picnic area as a Centennial project; the Branch mourns the loss by death of two valued members, Mrs. Eva MacRae, and Mrs. Mae Olson. **Canterbury** held shower for local bride-to-be; are assisting a needy woman in the Rosemary Rest Home. **Cookshire** heard article on changes in farming during the last century; also one on radio activity in Alberta; received pen-pal letter from England, describing formation of a Junior WI and a Music Festival; quiz contest on names of prominent inventors; packed Christmas Stockings. **East Angus** reports their Ways and Means Committee have raised considerable funds. **East Clifton** made donations to school cafeteria in Sawyerville and to Sawyerville Calf Club Field Day. **Sawyerville** had Mr. Guy Blanchette, Q.C. of Sherbrooke give an address on The Making of Wills, and Succession Duties; held exhibit of old china, with members bringing their favourite dish and giving its history; entertained the Bury W.I., and the County Executive. **Scotstown** sent articles to FWIC Convention; donated money to Haskell children fund, following the accidental death of their father.

GASPE: **Dartmouth River** received letter from the Administrator of Canadian Save the Children Assn, Pusan, Korea, thanking them for Christmas Stockings and saying how much joy they gave the children; Card party and Rummage Sale brought excellent financial returns; report of Provincial Semi-Annual given. **Douglstown** welcomed EIGHT new members; held scrambled word contest; appointed delegate to attend Provincial Convention. **Haldimand** sponsored Food Sale, Handicraft Sale, and Bingo. **York:** Each month will dis-

cuss a different province in Canada, started by having each member tell some fact about Newfoundland; for Roll call gave ideas on making WI Posters; the York Playground which the WI helped to get started is now under construction and promises to be most satisfactory; after many hours and many, many stitches, the Centennial Quilt, which the members have been making, is finished, with tickets now being sold.

JACQUES CARTIER : Ste. Anne's saw film "Quality of a Nation"; held quiz on Canadian Geography. **MEGANTIC** : **Inverness** as rollcall, named 2 fruits or 2 vegetables in French; to hold card party soon; 2 aprons handed in; new material received and distributed among members. **Kinnear's Mills** members told a joke, or paid a fine; fruit sent to Mrs. Thompson, a shut-in. Both branches received their Centennial pins and are very pleased with them.

MISSISQUOI : Cowansville answered rollcall by telling what she gained from the W.I.; letter of good wishes and donation received from member now living in St. John, N.B.; talk given on the pleasures and disadvantages of an herb garden; another on the discrepancies in size of so-called "quart" fruit baskets; heard description of the workshop and recreation centre being built for Retarded School at Dixville; took up collection for Christmas Stockings; sent maple products to FWIC Convention Sales Table. **Dunham** entertained Mrs. Dryden, County President; donations to Pennies for Friendship, and to Centennial project; renewed membership in CAC. **Fordyce** paid tribute to the late Governor General Vanier, and observed silence in respect; heart quilt finished and on display, and will now be sold. **Stanbridge East** : Rollcall — How to Save a Dollar; Three trash baskets given to town as Centennial Project; new programs distributed, and old ones collected to be sent to Northern Branches; contest on dress materials; hand-knit slippers or boot-liners shown and directions given.

MONTCALM : **Rawdon** sent set of six hand-woven table mats, made by a member, to FWIC Convention Sales Table.

PONTIAC : **Beechgrove** accepted challenge of Quyon WI to participate in a Pancake Relay Race; held very successful card party. **Fort Coulonge** heard Mrs. F. Fraser, County President as guest speaker; Current Events; Reading on Ottawa Centennial Year. **Shawville** decided to serve breakfast on July 1st, the day of Shawville Centennial celebration; extremely interesting talk and demonstration on Interior Decorating.

QUEBEC : **Valcartier** : Mrs. Van der

Spuy gave a very interesting talk on South Africa, her native country, and showed her many beautiful pieces of handicraft; two new members were welcomed; Convener of Citizenship distributed pamphlets on The Centennial Symbol, and the Canada Guide, 1867-1967; Rollcall was How Can We Help to Keep Peace; poem, "The Glory in the World" read.

RICHMOND : **Cleveland** members are going to plant cosmos, the Centennial flower, for competition; held quiz on publicity; handed in cookie recipes for cookbook which is being compiled. **Denison's Mills** members are making plans to make another quilt; collected used stamps; cookbooks distributed. **Gore** heard a paper on modern methods of making maple sugar; for rollcall gave a package of seeds to their right-hand neighbour; catered a wedding; sent handicraft articles to FWIC Convention Sales; 2100 cancer dressings handed in, and 2 shirts for bed jackets; scrapbooks and paper doll books sent to Dixville Home for Retarded. **Richmond Hill** discussed making quilt, blocks were given out to be worked and returned at next meeting; gift presented to Mrs. V. Farant in appreciation of her fine work during her years as president; 7 members with perfect attendance received gift cups and saucers; donation made to Brownie Troop. **Richmond Young Women** held contest on Nutrition, won by Mrs. C. Grainger; all members received Centennial books and pins; white articles brought in for a children's home. **Spooner Pond** heard articles on Education, and on various Centennial projects; received Centennial booklets and pins; sent maple syrup to FWIC Convention Sales; donation to Girl Guides and to Brownies; auction sale held of articles made from one yard material; Home Economics Convener, Mrs. A. Mallette, conducted quiz on household cleansers.

ROUYN-NORANDA : All branches worked together to hold a Bake Sale, to sponsor student to United Nations Seminar, and to attend a leathercraft course; all made Christmas Stockings. **Noranda** held a Trading Post of used clothing; awarded library cards to students; saw films and slides of European countries; collected used greeting cards; food voucher given to needy family. **Rouyn** had some members participating in the course where mosaics, needlepoint, metalcraft copper tooling and weaving were taught; knitted articles made to give to children; held auction sale and quiz; gave food basket to needy family. **Farmborough** held a quilt-making demonstration; helped local group in beautifying cemetery (Centennial Project); quiz on safety; gift to oldest member of the community.

SHEFFORD : **Granby West** renewed subscriptions to CAC and to Northern Lights; chicken pie dinner held in High School, for indigent children — a great success; Expo tickets given as prizes for Agriculture Essay. **Waterloo-Warden** sent Care package; held card party.

SHERBROOKE : **Ascot** has four members with perfect attendance for past year. **Brompton Road** welcomed and enrolled 4 new members. **Belvedere** Guest speaker from the Royal Trust Co., spoke on Wills; one of their most respected members, Mrs. C. T. Wearner, who was in residence at the Wake Home, passed away, in her 92nd year; donation made to Trust Fund for assistance to local young widow and her children. **Lennoxville** continued monthly work at cancer dressing station — in past year they have given 28 hours time, made 1440 dressings and 25 gifts for patients. **Milby** observed memorial silence for 2 members, Mrs. Edith McRae and Mrs. Elizabeth Lennon; some members attended public meeting at Lennoxville High School to discuss Bill 25. Mrs. E. Naylor and Mrs. W. Sutter are decorating cake for 50th Anniversary Banquet, May 8; discussion on leather course; held a sugar social for members and families.

STANSTEAD : **Beebe** held an apron contest, with guest, Mrs. Wadleigh, as judge; clothing and bedding collected for burned-out family; served refreshments to the Stanstead Fish and Game Club; canvassed for the Blind. **Hatley** supplied some needed items (scissors, yardsticks, room thermometers) to the school; filled Christmas stockings; Centennial Project will reprint the late Mrs. Maud Pellerin's History of Hatley Memory Book. **Hatley Centre** held contests on homemade bread and aprons. **Stanstead North** : Guest speaker, Mrs. K. Cooper of Ayers' Cliff, spoke on the care of plants and flowers, welcomed 4 new members; rollcall named a past president of the branch. 5 beautifully dressed dolls, made by member Mrs. L. Whitehouse, were on display, and will be sent to Douglas Hospital, Verdun; Mrs. M. Goodsell, Mrs. G. Taylor, Mrs. E. Hill and Mrs. B. Hill were presented with 25-year membership pins, by the president, Mrs. D. Cooper; Mrs. M. Osborne, and Mrs. M. Flint will receive the same awards soon. **Tomifobia** heard from their past convener of publicity, Mrs. P. Sisco, now living in Ontario, but keeping her QWI membership, and her interest in branch activities.

VAUDREUIL : **Harwood** was privileged to have as guest speaker, Mr. L. T. Chapman, of Hudson Heights, whose interest in, and knowledge of

(continued on page 24)

THE BETTER IMPULSE

Water! How Can We Save It?

Today the number one menace to public health is water pollution. Our beautiful province abounds in streams, rivers and lakes, but to drink these waters or to bathe in them is to take your life into your own hands. This is one of the high prices we must pay for Canada's industrial expansion.

Can we afford the price of burdening our communities with filth and disease? Thousands of industrial plants empty their residue into our waters. Municipalities pour their raw sewage into our streams and lakes and we go gaily along with the idea that the volume of water will drown pollution. However, at the centres where most of our population lives our waters are so disgustingly filthy that every citizen owes it to himself to take a personal interest in this matter which endangers the life of his family and community. Sewage experts calculate each person contaminates 200 gallons of water per day. A whole ton! Much of this is by detergents. As yet there is not a soluble detergent on Canadian markets.

We are being robbed of our outdoor recreation, our beaches, our parks and, in turn, our tourist business. Our wild life suffers. Destruction of our water resources is a possibility. What can be done?

The Provincial Government has set up a commission to study and act on this problem. The Quebec Anti-Pollution League have formed protests. We must ask for enforcement of our laws.

Two years ago Governor-General Vanier said, "In the eyes of humanity you are architects planning for future generations. You are stewards of unborn millions." Help our communities to plan for a cleaner Quebec. Every Canadian should accept some personal responsibility for the future welfare of our Belle Province.

Help save our waters!

Florence Zimmer
Agriculture Convenor,
Quebec Women's Institutes.

(continued on page 20)

DIRECTOR OF SUBSIDY PROGRAMMES

\$10,771. — \$12,241.

CANADIAN LIVESTOCK FEED BOARD LOCATION — MONTREAL

The Canadian Livestock Feed Board is a crown corporation established under the Livestock Feed Assistance Act to administer subsidy policies related to the transportation and storage of feed grains in Eastern Canada and British Columbia, and to ensure the availability of grains and storage to meet the requirements of livestock feeders and to ensure a reasonable stability and fair equalization of feed grain prices.

The Director of Subsidy Programmes will be responsible to administer the subsidy policies, to interpret regulations, to select, define and study areas in the cost and price relationship of feed grains transported by various modes of transport to demand areas; studies and recommends changes in policies and various methods of payment.

The successful candidate for this position will be a university graduate in a course related to the duties of the position and several years of related experience, or, a secondary school graduate with extensive related experience and a sound knowledge of the marketing of grains and mixed feeds, transport costs and distribution of feed grains.

Requests for additional information and application should be addressed to:

J. M. McDonough,
Executive Director,
Canadian Livestock Feed Board,
1400 Sir Guy Carleton Building,
Ottawa 4, Ontario



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FROM THE OFFICE

Mrs. Asa Stote, Stanbridge East W. made up an excellent Expo Quiz for her branch. If you would like a copy write the Office. A good idea to use it before visiting Expo.

W.I. MONTH —

Canadian Agriculture is wide and varied; one-time president of the Agricultural College, Truro, N.S. and pioneer organizer of 4 H Clubs in Western provinces, his talk aroused much interest, and was followed by variety of questions and answers; Mrs. Reed Agriculture Convener, had 2 beautiful plants which were sold at the close of the meeting; rollcall was a quotation mentioning a tree or a flower.

NEXT MONTH:

**W. I. RETURNS TO
FULL 4-PAGE FORMAT**

DR. BENTLEY CENTENNIAL LECTURER

Dr. C.F. Bentley, Dean of Agriculture at the University of Alberta and one of Canada's leading soil scientists, has been chosen by the Agricultural Institute of Canada to give the Centennial Lecture on Monday, June 26 at the Band Shell on the Expo site as part of the 47th Annual Meeting and Convention of the Agricultural Institute of Canada.

Dr. Bentley will emphasize the fundamental role which agriculture has played in the development of the leading countries of the world and how all citizens of Canada are benefiting from the agricultural sciences and how scientific agriculture and its applications offer the most important and practical avenue for the development of hungry nations — provided population explosion is checked in the decades immediately ahead.

COLLEGE HOLSTEINS TOP PROVINCE

The Breed Class Average of 145% for milk and 148% for fat achieved by the Holstein herd at Macdonald College in 1966 was the highest for the year in the province of Quebec.

Part of the credit must go to Macdonald Gloria Olena who completed her ten-year-old record during the year of 24,214 lbs. milk and 817 lbs. fat in 305 days. This gave her a B.C.A. of 212 for milk — just over double the average for all Holsteins of her age group in Canada.

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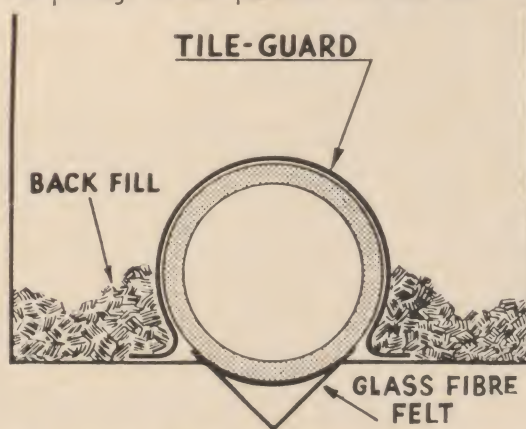
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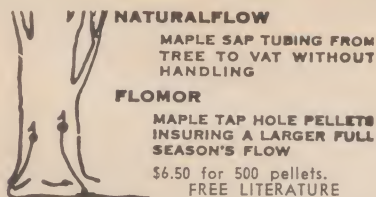
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NEXT MONTH:

The New Look
In Rural Education

D.H.A.S. FOR N.S.

The Nova Scotia D.H.I.A. program is being tied in with the Dairy Herd Analysis Service at Macdonald College. Data from the first herds were processed in December.

Essentially, the D.H.I.A. framework will be retained in Nova Scotia: the herd management data and milk samples will be collected by Nova Scotia fieldmen, and the testing done in the province.

Optionally, members may have this data forwarded to Macdonald College where the 1620 computer is programmed to turn out a monthly report of information for herd-management decisions impractical to calculate without the help of electronic equipment.

PROFESSOR CRAMPTON HONOURED

Dr. Earle W. Crampton, emeritus professor at Macdonald College of McGill University, has been selected as a fellow of the American Institute of Nutrition, the highest honor bestowed by that organization on one of its members.

Dr. Crampton, who retired from the McGill faculty in 1965, was honored for "his outstanding contributions to the world's knowledge of nutrition".

A native of Connecticut, he joined the staff of the Department of Animal Husbandry at Macdonald College in 1922. In 1937, on a leave of absence, he received his doctorate degree from Cornell University.

Dr. Crampton is a fellow of the Royal Society of Canada, Commander of the Order of Merit, fellow of the Agricultural Institute of Canada, past-president and Fellow of the American Society of Animal Science, and past-president of the Nutrition Society of Canada.

DR. STEPLER MANAGES EXPO PAVILION

Professor Howard A. Stepler, Chairman, Department of Agronomy, Macdonald College, and Past President, Agricultural Institute of Canada, is Manager of the \$3.5 million "Man the Provider" Pavilion at Expo.

"Man the Provider" is the first agricultural exhibit at an international exhibition to concern itself with man's struggle to produce enough food for the world's growing population.

Dr. Stepler was also Chairman of Expo's national advisory committee on agriculture.

PELLETIER IN GHANA

Dr. Real L. Pelletier, Professor of Plant Pathology, is on a year's sabbatical leave from his post at Macdonald College to teach in the University of Ghana, Legon, Accra, under the sponsorship of the Canadian Department of External Affairs.

Filling in for Dr. Pelletier during his absence is Dr. Ragai K. Ibrahim, who received his B.Sc. degree from the University of Cairo, his M.Sc. from the University of Alexandria, in Egypt, and his Ph.D. from McGill in 1961.

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IN JULY ISSUE,

"WITH COURAGE
AND FAITH", A W.I.
FEATURE TELLS
STORY OF QUEBEC
PIONEERS.